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ABSTRACT

The verbal behavior of teachers and students in elementary stenography classes is described. Observational data, consisting of the verbal behavior of teachers and students in 30 elementary stenography classes, were categorized and analyzed. From this initial analysis, a basic model of teacher-student behavior was defined. Deviations from the basic model were noted as they appeared to cluster around three variables in the classroom environment: teaches, point of time, and type of learning activity. An analysis of the data in terms of these three variables defined profiles of individual teaching style, of a longitudinal pattern that coincided with patterns of skill acquisition, and of contextual behavior patterns for each of the major types of learning activities. (Author)

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Introduction

The long-range goal of much educational research has been to determine correlates of teaching effectiveness. Our literature is filled with reports of studies designed to test the effectiveness of a method, a technique, or materials. Yet our knowledge of what constitutes effective teaching in a skill class is still meager. We can only theorize as to why one teacher, with seemingly little effort, gets students to top levels of performance while another teacher struggles to reach minimal standards. Research has taught us much. For example, we know that correctly written outlines are more apt to be transcribed correctly than incorrect outlines. We know how to categorize dictation material in terms of difficulty. But what do we know about categorizing teacher behaviors as they relate to student achievement?

This study was based on the assumption that improvement of teaching is dependent upon an understanding of the teaching-learning process and the most direct way to learn about these processes is to observe and analyze the behavior of teachers and students in the conventional classroom setting. During the last decade researchers have used observational techniques to study many facets of classroom behavior. Critical dimensions of teacher behavior have been identified and their effect upon the achievement and attitude of students established. Most of these studies, however, have been conducted in classes concerned with the development of conceptual abilities and/or the acquisition of factual knowledge. Studies are still needed to assess the effects of different teacher behaviors when students are primarily concerned with developing psychomotor skills.

Design

The purpose of this study was to describe the language of teachers and students in a skill class--elementary shorthand--in terms of the pedagogical meanings transmitted by the statements of teachers and students and the meanings contained in the words spoken.

For purposes of the study, teaching was viewed as a kind of reciprocal interaction between teacher and students with the subject matter setting the contextual framework. Secondly, it was assumed that the primary function of classroom language is the communication of meaning, and identification of the meanings

communicated should, therefore, indicate the behavior of those involved in the classroom interaction. Thirdly, classroom interaction was viewed as a kind of language game that follows distinct rules which govern the roles played by the participants. The nature of the roles are described by the functions performed by the verbal moves, and the rules of the game are inherent in the patterns of the verbal interaction; for example, the teacher asks questions, the student responds.

Since rules for language games are set by the context in which they occur, it seemed logical to assume that changes in classroom variables such as learning activity, teacher style, and content would result in changes in the rules of the game. To assess possible changes that might occur, observational data were collected and analyzed according to individual classes, specific points of time over one semester, and major classroom activities.

The data for the study consisted of verbatim transcripts of six tape-recorded sessions from each of five university elementary stenography classes. Each class was observed for two consecutive days at the beginning of the semester, midway through the semester, and near the end of the semester. Transcripts were coded according to a modified version of the Bellack Content Analysis System.[1] The basic unit for analysis was the verbal act, or a pedagogical move. The pedagogical move provided a means for combining identification of the speaker with a description of the three dimensions of meaning contained in each verbal move:

1. Pedagogical meaning, or what the speaker did with the words he spoke. Four categories were identified: structuring, soliciting, responding, and reacting.

2. Topic meaning, or what he said with the words he spoke. Categories describing Substantive and Instructional meanings were defined.

3. Mode meaning, or the process involved in performing the verbal act. Both logical processes (defining, explaining, etc.) and operative modes (encoding and decoding) were included.

A second functional unit for analysis was the task block. The flow of classroom language divided naturally into almost autonomous blocks of discourse that could be identified in terms of a single, dominant kind of learning activity. These segments of discourse were referred to as task blocks with four categories to describe the major classroom activities: learning-shorthand theory, reading shorthand, writing shorthand, and transcribing shorthand. These task blocks provide a basic unit for assessing stability of behavior by learning activities.

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[1]Arno A. Bellack, The Language of the Classroom (New York: Teachers College Press, Teachers College, Columbia University, 1966).

The complete analysis system is presented on page 8.

Results of the study were reported in terms of percent of discourse falling in each category. In most instances, percentages were computed on the basis of total lines of typed discourse and total moves made by a teacher, a student, or all students in a class. To assess behavior patterns by time periods and task blocks, percentages were computed on the basis of total lines and moves spoken during a time period or a task block.

Summary and Conclusions

The results of the study indicated that the verbal behavior in a skill class, such as elementary shorthand, can be described in terms of pedagogical roles and that the pedagogical, topic, and mode meanings were critical dimensions of classroom interaction. The language game model proved to be a meaningful way for interpreting the information provided by the analysis and for assessing equations from the basic pattern.

The analysis showed that in this group of classes there were remarkable similarities among teacher and students. Even in individual classes there was a consistent and stable pattern of discourse with teachers and students playing clearly defined roles.

There were deviations; however, the extent and direction of deviations was fairly consistent and appeared to associate with changes in components making up the structural environment of the classroom: who the teacher was, at what point of time the data were gathered, and what the learning activity was. The stable patterns of deviation illustrated how the general rules were modified by components of the classroom setting to create an individualized style of play. Participants, in each instance, readily assumed the role patterns imposed by the modified structure and, within that context, followed the rules with few deviations.

A summary of the similarities and general trends revealed by the analysis provide a description of the basic language game that characterized the shorthand classes participating in the study:

1. The largest proportion of recorded discourse, 65 percent, occurred within the context of writing and transcribing task blocks. Approximately one half of the discourse, 47.6 percent, consisted of teacher dictation with material taken from the textbook and from supplementary sources in about equal proportions.

2. The teacher made two.thirds of the verbal moves, did three fourths of the talking, and regulated classroom activities with the precision of a drill master. Students apparently learned their roles well for they made the expected responses with a minimum of direction. In fact, the cues from the teacher were

frequently so meager and the students' responses so automatic that it appeared as if the rules of the game had been automatized much more effectively than had the stenographic skill.

In some classes the rules required students to repond in unison most of the time; in other classes, they responded individually to the teacher's soliciting cues. For all classes combined, almost equal proportions of discourse were spoken by students in unison and by students individually.

3. Pedagogically, the teacher controlled the direction of the discourse by making almost all the initiatory moves--structuring and soliciting--and 79 percent of the reacting statements. However, the teacher's role was not a diversified one, for two thirds of the lines she spoke consisted of soliciting functions.

4. Students played a respondent's role with almost 95 percent of student talk devoted to responding acts. Most responses were recitative-type responses of two- or three-words that involved defining symbol-sound relationships.

5. Approximately two thirds of the discourse dealt with the subject matter; however, the range of substantive topics was small. Connected-matter was the focus of discussion or was used as the vehicle for developing skill in 62 percent of the discourse. Isolated words were involved in about 21 percent. No other substantive topic accounted for more than 6 percent of the discourse lines.

6. In all five classes "doing" shorthand was allotted more time than "talking about" shorthand. Operative modes were used almost five times as much as logical modes. Mean percentages for all five classes showed that almost equal proportions of time were devoted to the two major operative modes: decoding-orally and encoding. In individual classes, however, one mode was usually stressed to the exclusion of the other. For example, in one class about 44 percent of class time was devoted to decoding-orally and 10 percent to encoding. In another class 48 percent of the time was spent encoding; 6 percent, decoding-orally.

7. Most incidents of logical modes occurred in the early part of the semester within the context of theory-learning task blocks. Defining, or identifying symbol-sound relationships, was used most frequently. Apparently, repetitive identification and memory-recall drills played a major part in learning theory principles. There was little evidence that higher levels of cognition were involved. Teachers explained occasionally, but incidents of justifying and opining were rare.

8. Approximately one fourth of the discourse was devoted to maintaining the learning environment. These communications involved explaining or stating facts about class procedures, calling upon students to perform in some way, and rating operative acts. Checking assignments and tests occupied about

15 percent of the time in two classes, 7 percent in another class. In contrast, less than 5 percent of the discourse consisted of rating acts. In most instances, ratings were made by teachers and consisted of neutral statements that carried no evaluative criteria and showed little discrimination.

When the data were analyzed by time periods and by task blocks, modifications of the basic rules were easily identified. Variations from the general pattern reinforced and were for the most part congruent with the structure of the subject matter and the progressive pattern of skill development. A brief description of how general patterns were modified to fit task components of the subject matter illustrates the relationship between subject matter and language patterns.

During the theory-learning task blocks, teachers performed structuring, soliciting, and reacting functions in almost equal proportions. Students accounted for about one third of the discourse as they defined shorthand symbols and words, usually in unison. Teachers spend more time explaining and stating facts. All in all, about one third of the discourse involved the use of logical modes when dealing with subject matter topics (22 percent of discourse).

During reading task blocks, in all classes but one, students spoke more lines than the teacher. Utterances were primarily responding acts and consisted of decoding connected matter from the textbook. The teacher's role was primarily instructive as she called upon students to perform, provided oral cues when needed, and rendered perfunctory ratings that could, in most instances, be interrupted as halting utterances as well as ratings (15 percent).

Writing and transcribing blocks, in terms of oral behavior, followed the same rules. Those rules called for the teacher to do most of the talking. In all classes but one, the students spoke less than 7 percent of the discourse. However, they were busy performing nonoral acts as the teacher spent about 90 percent of the time dictating connected matter. During transcribing task blocks, the ratio of lines dealing with maintenance or supporting the learning environment was high since considerable time was spent checking word list tests and transcribed material (writing 39 percent, transcribing 21 percent).

An interesting result of stability analyses was the consistency and pervasive influence of the patterns that characterized the four task blocks. The results indicated that each task block was governed by a set of rules which operated independently of the influence of teacher, students, or time. Furthermore, there seemed to be a direct relationship between the task block emphasis and language patterns in each class at each point of time. Similarities were, of course, most pronounced when there was one dominant task block; otherwise the similarities were found to be in proportion to the extent that a task block did dominate classroom activities. If a

consistent relationship were firmly substantiated, patterns of classroom discourse could be predicted (and regulated) by determining the proportions of time devoted to each type of task block.

For this group of classes, variations in task block emphasis provided a remarkably accurate description of modified patterns that characterized an individual class or a point of time.

When the data were examined by time periods, it was found that theory and reading task blocks were concentrated in the first observation period, gradually decreasing so that only a small part of the time in Period 3 was devoted to reading task blocks. As the proportion of reading and theory-learning task blocks decreased, the proportion of writing and transcribing task blocks increased. These changes were consistent with the progressive pattern of skill development; that is, from an initial emphases on conceptual learning of the theory to application and integration phases through increased reading, writing, and transcribing activities. The detailed analysis of pedagogical functions and communicated meanings by time periods revealed an evolving pattern of verbal behavior that corresponded to the changes in task block emphasis.

The longitudinal pattern was evident in all five classes; however, there was variation in the rate. In one class, two thirds of the time was spent in reading and theory task blocks and only in the third period did writing task blocks occupy more time than theory and reading. In another class, only 9 percent of the first observation time was devoted to learning theory; the remainder of the observed time was devoted to either writing or transcribing activities. Consequently, the language patterns for the first class resembled those typical of theory and reading task blocks while the second class modified the rules in the direction of those resembling writing and transcribing task blocks.

Differences among classes were apparently due to the teacher's predeliction about how shorthand should be taught and basic rules were modified to fit this decision. Within a class, the direction and extent of modification was notably consistent. As a result, classes maintained approximately the same ranking order on a high-low continuum for almost all dimensions of the analysis. For example, the teacher who did the most talking at the beginning of the semester did the most talking at the end of the semester. Conversely, the teacher who did the least talking at the beginning of the semester did the least talking at the end of the semester.

The relationship between the three phases of the analysis--teacher, task block, and time period--and the influence of each on classroom behavior provided insight into a triadic interrelationship. The findings suggested that the teacher's major responsibility was to focus students' attention and effort on certain content and/or learning tasks. In discharging this function, she decided how much time

should be given to each activity at each point of time throughout the semester. Once the task block was launched, however, classroom behavior appeared to follow a pattern set by the learning activity and the stage of skill development attained by the students.

It was beyond the scope of the study to provide answers as to what the best mix of activity might be or whether the patterns observed are the most effective kinds of interaction. It was the intent of the study to provide insight into what actually takes place in some shorthand classes and to indentify some variables that might be worthy of further study.

Research and experience have demonstrated that teaching is not improved merely by changing instructional materials, course organization, or methodology. Rather the kinds of interactions between teacher and students and subject matter must be changed.

In spite of all the research done, shorthand is still taught in much the same way it was 50 years ago. In the classes observed, the teachers maintained tight control as they paced students through chalkboard drills, cued reading materials, and dictated at a fixed rate. While the amount of time given to the conceptual aspects was varied, there was little variation in the methods used. Today, when especially more and more self-paced, individualized programs are adopted, the need is great for an accurate understanding of how best the different components of mastering shorthand theory and acquiring an effective, automatized skill is achieved. Since time is of essence in achieving marketable skill, the encounters between students and subject matter need to be productive--and to enable the student to evaluate honestly how well he performs and to acquire some mastery in solving problems--such as reading and writing unfamiliar words--rather than be structured into a memory-laden reactor.

It is recognized that the conclusions of this study are based on a limited sample. Yet a number of classroom behaviors have been identified that will hopefully stimulate new avenues of investigation. As teachers are freed from the routine, mechanized activities that machines can do, it is hoped that more time will be given to experimenting with and testing out different behaviors and their effect on student achievement so that eventually criteria are identified by which effective teaching of basic business skills can be evaluated.

System of Analysis Chart to Describe the Language of Elementary Shorthand Classes

1. Speakers
   - 1.1 Teacher
   - 1.2 Student
   - 1.3 Class

2. Pedagogical Functions
   - 2.1 Structuring
   - 2.2 Soliciting
   - 2.3 Responding
   - 2.4 Reacting

3. Substantive Topic Meanings
   - 3.1 Shorthand-Symbols
   - 3.2 Words
   - 3.3 Words-and-Symbols
   - 3.4 Word-Building-Principles
   - 3.5 Brief-Forms-and-Phrases
   - 3.6 Connected-Matter
   - 3.7 Language Mechanics
   - 3.8 Related to Shorthand
   - 3.9 Not Related to Shorthand

4. Instructional Meanings
   - 4.1 Maintenance Topics
     - 4.11 Assignments
     - 4.12 Action--Vocal, Physical, Cognitive
     - 4.13 Discourse
     - 4.14 Person
     - 4.15 Procedures
     - 4.16 Modal Processes
   - 4.2 Supportive Topics
     - 4.21 Assignment-Checking
     - 4.22 Media
     - 4.23 Dictation

5. Mode Meanings
   - 5.1 Logical Modes
     - 5.11 Defining
     - 5.12 Fact-Stating
     - 5.13 Explaining
     - 5.14 Justifying
     - 5.15 Opining
     - 5.16 Rating
     - 5.17 Checking
     - 5.18 Performing
     - 5.19 Not Clear
   - 5.2 Operative Modes
     - 5.21 Decoding-Oral
     - 5.22 Encoding
     - 5.23 Decoding-Manual

6. Task Blocks
   - 6.1 Theory
   - 5.2 Reading Shorthand
   - 6.3 Writing Shorthand
   - 6.4 Transcribing Shorthand
   - 6.5 Other

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